

## **AMENDMENTS TO THE CLAIMS**

The following listing of claims will replace all prior versions and listings of claims in the application.

### **LISTING OF CLAIMS**

1. (Currently Amended) A compressor comprising:

a vaneless diffuser;

a volute defining an open space in fluid communication with said diffuser,  
said vaneless diffuser including a generally open space in fluid communication with said  
open space of said volute; and

an impeller operable to compress a fluid stream and direct said fluid stream to said volute, said impeller including:

a hub having an axis of rotation; and

a plurality of blades extending from said hub, said blades having a surface defined by an axial direction (Z), a radius (R) defined from said axis of rotation of said hub, and a polar angle ( $\Theta$ ), whereby the polar angle ( $\Theta$ ) is a function of only the radius (R);

wherein said impeller is a radial impeller including an inducer formed proximate a leading edge of each blade, said inducer disposed in a plane that extends generally in said axial direction (Z) of each blade and including a height component in said axial direction (Z) that is substantially five to seven percent of an outer diameter of said impeller.

2. (Previously Presented) The compressor of claim 1, wherein each of said blades includes said leading edge and a trailing edge, said leading edge formed proximate said hub and said trailing edge formed proximate said volute.

3. (Previously Presented) The compressor of claim 1, wherein said height component of said inducer in said axial direction (Z) is equal to a height of said blade in said axial direction (Z) at said leading edge.

4-10. (Cancelled)

11. (Previously Presented) An impeller comprising:  
a hub having an axis of rotation; and  
a plurality of blades extending from said hub, said blades having a surface defined by an axial direction (Z), a radius (R) defined from said axis of rotation of said hub, and a polar angle ( $\Theta$ ), whereby the polar angle ( $\Theta$ ) is a function of only the radius (R);

wherein said impeller is a radial impeller including an inducer formed proximate a leading edge of each blade, said inducer disposed in a plane that extends generally in said axial direction (Z) of each blade and including a height component in said axial direction (Z) that is substantially five to seven percent of an outer diameter of said impeller.

12. (Previously Presented) The impeller of claim 11, wherein each of said blades includes said leading edge and a trailing edge.

13. (Previously Presented) The impeller of claim 12, wherein said height component of said inducer in said axial direction (Z) is equal to a height of said blade in said axial direction (Z) at said leading edge.

14-21. (Cancelled)